

PATENT SPECIFICATION

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DRAWINGS ATTACHED.

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COMPLETE SPECIFICATION.

Demasking of Masked Sheet Material.

We, ROHM & HAAS COMPANY, a corporation organized under the laws of the State of Delaware, United States of America, of 222 West Washington Square, Philadelphia 5, Pennsylvania, United States of America, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention is concerned with a method for demasking masked sheets.

In order to preserve the surface of certain types of sheet material, such as plastic or metal sheet having a highly polished surface, it is customary to apply to a surface or surfaces thereof an adherent thin sheet of masking material, such as paper or the like, which ultimately is removed. Normally, this masking material is removed by hand which is both time-consuming and expensive.

In accordance with the present invention, there is provided a method of demasking sheet material containing masking on at least one side which comprises passing the sheet material through the nip of a pair of parallel rollers, a portion of the masking being initially detached from the sheet and adhered to the surface of a roller whereby, on rotation of the roller, the masking is progressively stripped from the sheet and wound onto the roller.

Apparatus for carrying out the method of the invention is shown in the accompanying drawings in which:

Fig. 1 is a perspective view of one form of apparatus and

Fig. 2 is a perspective view of a second form thereof.

Referring first to Fig. 1, 1 and 2 are upper and lower shafts, respectively mounted on pivoted arms 3 and 4 in bearings 5 and 6. Lower shaft 2 is driven by a variable

speed drive 7 through pulleys 8 and 9. The weight of drive 7 (e.g., an electric motor) tends to push bearings 6 upwardly. Card-board cores 1¹ and 2¹ are mounted, respectively, on shafts 1 and 2.

In use of the apparatus of Fig. 1, a sheet 10 masked on both sides 11 and 12 is started between the cores 1¹ and 2¹ on shafts 1 and 2 in the direction shown by the arrow A, the maskings 11 and 12 adjacent the end of the sheet being fed between the cores having been loosened and attached to the respective cores. Drive 7 is then started, turning the shafts and cores in the directions indicated by arrows pulling the sheet 10 between them and unmasking it, the masking on each side being rolled back upon itself on the cores.

Demasking of sheet 10 is stopped by discontinuing the drive when the far end of the sheet is within an inch or two of passing through the cores and a second sheet 10¹ masked (11¹ and 12¹) is butted tight against sheet 10 or lapped about an inch as shown. The drive is then restarted and unmasked sheet 10 is fed onto a receiving table R as shown. Incoming sheet 10¹ is shown with the unmasking started manually on both top and bottom sides. The adhesive pull of the masking on the rolls effects the unmasking of the masked sheets.

Additional sheets are fed into the device until the diameter of the rolled masking on the cores reaches the limit thereof (e.g., of the order of 6" in diameter usually). The shafts are then removed from the bearings, the cores replaced with new ones, and the shafts replaced, whereupon the demasking cycle may be repeated.

The principle applied is in using the adhesive action of the side of the masking adhered to the masked sheet to pull the sheet through the device and to break adhesion of the masking with the sheet as the latter

passes through the device. Sheets fed between the rolls following an initial or subsequent sheet must be lapped or sufficiently tightly butted so that the adhesive surfaces of the maskings from the previous sheet never come in contact with each other.

Pressure-sensitive tape may, of course, be used at the butted ends of the two sheets, if desired.

The device used for carrying out the demasking method may be made automatic or semi-automatic by the application of well-known means such as limit switches or the like to stop the drive when the trailing edge of the sheet being unmasked becomes aligned with two tape dispensers just prior to passing through the unmasking rolls. The operator, for example, may then place the next sheet in abutment, pull the tapes across either side of the butted joint to bridge the masking on the two sheets. The drive is then restarted and the cycle repeated.

Fig. 2 is a modification similar to that shown in Fig. 1 except the lower shaft, core, and drive are mounted in a stationary manner rather than being pivoted.

WHAT WE CLAIM IS:—

1. A method of demasking sheet material containing masking on at least one side which comprises passing the sheet material through the nip of a pair of parallel rollers, a portion of the masking being initially detached from the sheet and adhered to the surface of one of the rollers whereby, on rotation of the roller, the masking is progressively stripped from the sheet and wound onto the roller.

2. A method according to Claim 1 wherein the rollers are in floating relation to each other.

3. A method according to Claim 1 wherein one roller is stationarily mounted and the other is held in floating relation thereto.

4. A method according to Claim 1 substantially as hereinbefore described with reference to Fig. 1 or 2 of the accompanying drawings.

For the Applicants,

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